FE266

Diagram No. 1211-3

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey Side Scan Sonar

Field No. R/H-20-17-84

Office No. FE-266

LOCALITY

State Rhode Island

General Locality Block Island Sound

Locality Three Miles South of Weekapaug Point

1984

CHIEF OF PARTY
LCDR R.K.Norris

LIBRARY & ARCHIVES

DATE March 7, 1985

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

FE266

Area I
Chts
-13215
13205
-12300
13006-HC

TO SIGN OFF SEE "RECORD OF APPLICATION"

NOAA FORM 77-28 (11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

FE-266

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

R/H 20-17-84

State RHODE ISLAND

General locality ~~SOUTHERN NEW ENGLAND COAST~~ Block Island Sound

Locality ~~CORRIDOR POINT 4 TO 71-42' W.~~ Three Miles South of Weekapaug Point

Scale 1:20,000 Date of survey 18 SEPT - 12 OCT

Instructions dated APRIL 12, 1984 Project No. OPR-B660-Ru/He-84

Vessel NOAA SHIPS RUDE(9040) & HECK(9140)

Chief of party LCDR ROBERT K. NORRIS COMDG.

Surveyed by R.K. NORRIS, N.G. MILLETT

Soundings taken by echo sounder, ~~hand lead, pole~~ & Pneumatic Depth Gage SONAR S/N's 088,249 FATHO S/N's A116N, B051N

Graphic record scaled by E.M.C., T.G.C., W.J.A.

Graphic record checked by R.K.N., N.G.M., E.M.C., T.G.C., W.J.A.

Protracted by N/A Automated plot by N/A

Verification by Evaluation and Analysis Group, Hydrographic Surveys Branch (AMC)

Soundings in fathoms feet at MLW MLLW ~~PREDICTED TIDES~~ Smooth Tides

REMARKS: All times in this survey are recorded in UTC.

STANDARDS CK'D 3-8-85
C.Loy

AWOIS and SURF ✓ RWD 4/85

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. G.P.O. 1972-769-565/519 REG.#6

0.OP

CONTENTS PAGE

APPENDICES

* Data removed from the Descriptive Report and filed with the field records.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY ~~H-~~FE-266, R/H 20-17-84
1:20,000 SCALE, 1984
NOAA SHIPS RUDE & HECK
LCDR ROBERT K. NORRIS, COMDG.

A. Project Authority

This project was conducted in accordance with Hydrographic Project Instructions OPR-B660-RU/HE-84, Southern New England Coast, dated 12 April 1984. Two amendments to the project instructions were Change No. 1, dated 21 May, 1984 and change No. 2, dated 30 November, 1984. The purpose of this project, in order of priority, was to provide wire-drag and side scan sonar clearance of the Northville Industries Corporation oil tanker route, to provide clearance depths over selected wreck sites and to verify or disprove certain reported submerged wrecks along the south coast of New England.

B. Characteristics and Limits of Area Surveyed

This report contains that area of the one mile wide tanker route from the junction with sheet R/H 20-16-84 at corridor point 4 (041°-14'-49"N, 071°-51'-00"W) on the west and with sheet R/H 20-18-84 at longitude 071°-42'-00"W on the east. The survey work consisted of an initial sonar investigation with 100% coverage of the bottom in the corridor area utilizing 150 meter vessel track spacing and the sonar recorder operated at the 200 meter range scale.

C. Survey Vessels

The side scan sonar work was accomplished by the NOAA Ships Rude (9040) and Heck (9140).

D. Hydrographic Sheets

The hydrographic sheets used in this survey were made of mylar and were constructed with the Digital PDP 11/34 computer S/N AG22645 and Houston Instruments roll-bed plotter S/N 8731-8 aboard the Ship Rude.

The field sheets were plotted at a scale of 1:20,000 and were used aboard each vessel to hand plot the towing vessel's position while on line. A smooth sheet was also plotted aboard the ship using the same equipment as described above. This smooth sheet was used to machine plot the towing vessel's position, to hand plot any targets or large contacts, and to illustrate the area covered by side scan sonar operations. The field records are being sent to the Atlantic Marine Center for verification and smooth plotting.

E. Equipment and Techniques

(1) Survey Operations

All side scan sonar coverage was accomplished with the Klein systems provided by AMC. These systems consisted of a Model 521 recorder, a 100 KHz towfish, a K-Wing depressor and a towcable. Unit S/N 088 was used aboard the Rude and S/N 249 was used aboard the Heck. The 100% side scan sonar coverage was accomplished with a main scheme track spacing of 150 meters and the side scan recorder operating at the 200m range scale. The main scheme consisted of thirteen lines running the length of the sheet.

A problem developed with the Heck's side scan sonar towcable during this survey which caused dark bands of interference to appear intermittently across the outer edges of the sonograms. The cause of the problem could not be determined. In some instances this interference was severe enough to obscure the outer edges of the sonargrams. All main scheme lines of side scan sonar run by the HECK when this interference occurred were subsequently split to ensure complete coverage.

Del Norte rates obtained on fixes were recorded with Eaton Model 7000+ serial printers during this survey. These printers worked fairly well considering the fact that they were not designed to be operated in a marine environment. The printers would often type out a line of meaningless characters or rates from the previous fix before the current fix was recorded. The printer records were annotated such that these meaningless characters and extraneous rates were lined out leaving the correct fix rates clearly displayed.

A problem with the Heck's Del Norte unit developed during side scan sonar operations on 18 September (JD 262). During operations this day the Del Norte rates gradually degenerated to give erroneous ranging. This problem could not be resolved necessitating a change to a new DMU (142) and Master (3033).

A Raytheon model DSF 6000N echo sounder was operated and annotated concurrently during all side scan sonar operations. The echo sounder was also used during a reconnaissance survey to determine the least depth over a non-dangerous wreck. The echo recordings were reviewed daily to ensure that no large objects located directly under the sonar towfish had gone undetected. Unit S/N B051N was used aboard the Rude and unit S/N A116N was used aboard the Heck.

Although it is not anticipated that these sounding records will be used for charting purposes, the settlement and squat data for the Rude and Heck, obtained in Norfolk Harbor on 25 January 1983, is included in this report. No velocity corrections or settlement and squat determinations were actually conducted within or during this project. The draft of the transducers on both vessels is 7.0 feet. - *The hydrography is of reconnaissance value only.*

(2) Diving Operations

Review of the sonar and sounding records of this survey indicated that contact #1, posed a potential danger to

navigation, requiring additional investigation. This contact was located by DSF 6000N echo sounder search techniques on JD 269 from the vessel RUDE. A marker float was deployed on the wreck during the echo sounder search and was later used as a diver decent line. The item was located by the divers using a mid-water column circle search at 95 feet. The divers descended on what appeared to be the rounded edge of the bottom of a hull, at the junction of the side, of a barge-like structure (See Appendix F). Strong currents swept the divers along the entire edge of the structure, but the divers were unable to locate a feature or protusion to secure an additional marker float. Since the divers were working in relatively deep water, bottom time was limited, requiring additional diving on another day to completly resolve this item.

Dives were conducted on JD's 283 and 285, but were unsuccessful in further resolving this item as a result of strong currents and marginal visibility. Diving operations were then conducted on JD 286 at predicted slack water, with visibility between 25 and 35 feet. Divers swept the entire length of the chime and recorded three pneumofathometer soundings at the highest point of the structure. A detailed investigation of this item was then conducted at depths between 115 and 120 feet. It was determined that the obstruction was an overturned steel hulled barge, 100 to 120 feet LOA, undetermined beam, with an open cargo hold. The pneumatic depth readings were corrected for instrument error (+0.4 ft) and ~~predicted~~ smooth tides (~~-1.0~~ -0.8 ft), to obtain a corrected MLLW least depth of 88.6 ft. at position latitude 041°-15'-59.14"N, longitude 071°-46'-25.69"W. The centerline axis of the barge is oriented east-west. AWOIS # 2918 L-1494/84

F. Control Stations

Two electronic control stations were used for this section of the survey. Station 01 was WATCH HILL LIGHTHOUSE (1873), located at latitude 041°-18'-13.646"N, longitude 071°-51'-32.552"W with an elevation of 18.6 meters. Station 02 was POINT JUDITH LIGHTHOUSE (1839), located at 41°-21'-39.323" N and 071°-28'-54.826" W with an elevation of 19.8 meters. Both stations were located by NGS and the adjusted positions for these stations were obtained from published NGS horizontal control data. All stations are of Third-Order, Class I control accuracy or better. The station positions are based upon the North American Datum of 1927.

G. Calibration and Position Control

Vessel positioning for all work was accomplished with the Del Norte 520 series electronic positioning equipment operated at a frequency of 9400 MHz in the range-range mode. A listing of DMU and master units used by the vessels during this survey are listed by Julian Day in Appendix A. The remote installed at Station 01 was code 84, serial number 3003. Remote 86, serial number 3004, was installed at Station 02.

Two baseline calibrations were performed during this survey. All baseline calibrations were conducted in the immediate

work area and entirely over water in accordance with AMC OPORDER 79. Baseline calibration distances were determined by the HP 3800A electronic distance measuring instrument, serial number 0987A00157. The following is a list of the baseline calibrations, as measured by the HP 3800A:

31 August, 1984	Newport Naval Pier 2 to Gould Island, S.E. Pier	1933.0m
28 September, 1984	Newport Naval Pier 2 to Gould Island, S.E. Pier	1933.0m

Daily calibrations were conducted using the range/sextant cut method or three point sextant fix method. The calibration correctors were computed using a HP 9815A computer, S/N 1825A02388, and the Hydro Cal Package-800730 and Geodetic Package-800610. No close calibration check was computed on JD 286 for the vessel RUDE as a result of poor visibility. However, calibration checks conducted by the RUDE on sheet R/H 20-16-84 before and after this date were well within the accuracy range for a survey of this scale.

The daily correctors for all calibrations that were conducted were stable and within accuracy tolerances for a survey of this scale. Therefore, only the baseline calibration data should be applied to the raw position data during final processing and smooth plotting.

The pneumofathometer was calibrated on 30 August, 1984 (JD 243), 2.5 NM north of BLOCK ISLAND R.I.. All depths determined by pneumofathometer during dive operations have been corrected for instrument errors, as determined from the Pneumofathometer Calibration Table (Appendix E).

H. Dates of Survey

This survey was begun on 18 September, 1984 (JD 262) and was completed on 12 October, 1984 (JD 286).

I. Reduction and Processing of Data

All side scan data was initially recorded in NOAA Form 77-44, sounding volumes. All header data, position numbers, time,and position control data were recorded in the appropriate columns in the volumes. The remarks column was used to record all line information, vessel rpms, length of towcable (measured from the waterline to the towfish), vessel heading, and any other unusual or noteworthy remarks. The towfish layback was computed by adding the length of towcable out of the stern plus the stern to antenna distance.

Position data from the side scan sonar work was entered in the Digital PDP 11/34 computer with a modified version of the R/H Double Precision Wire-Drag program. Rates for just one vessel were entered in this program and a single vessel position plot was then generated with the Houston Instruments roll-bed plotter. All side scan sonar work for this survey was plotted in this manner. The 1984 versions of the Rude and Heck wire drag

programs were used to plot all data on this field sheet.

The sonargrams from the side scan sonar work were examined while on line and then again at the end of the day. Two notable contacts were flagged during this survey. These contacts were plotted on the smooth sheet containing the vessel position plots. A target abstract was not completed for these contacts because they were thoroughly investigated by precise survey methods (See Section K). The Del Norte rates of the contact positions were determined using a grid and arc overlay. These rates were then used to determine the latitude and longitude of the contact with the HP 9815A computer and the Geodetic Package program.

J. Junctions and Splits — *See the Evaluation Report, section 5.*

This side scan sonar survey junctions to the east with contemporary survey R/H 20-18-84 and to the west with survey R/H 20-16-84. There is adequate overlap with both surveys R/H 20-18-84 and R/H 20-16-84.

The interference on the Heck's sonargrams, described in section E. of this report, caused a reduction in the effective range of the side scan sonar. Split lines were run between all main scheme side scan sonar lines that contained this interference. There are no gaps in 100% side scan sonar coverage contained within this survey.

K. Comparison with Prior Surveys - *See the Evaluation Report, sections 4. & 6.*

All R/H 20-17-84 survey and sounding records were compared to prior survey H-6443, 1:40,000 scale, dated 1939, which covered a common area. Depths in the survey area range generally from 102 feet to ~~129~~ 148 feet on the prior survey. Depths on the present survey compare favorably with the prior survey, although it was noted that present soundings are generally 3 to 4 feet shoaler than the prior records. Present survey soundings were only corrected for vessel draft. — *No sounding plots were generated by the field & no sounding plots were made during verification, therefore no comparisons were made during evaluation.*

There were two contacts discovered during the survey which were not shown on the prior survey. The most significant of these contacts was a large overturned barge at latitude 041°-15'-59.14"N, longitude 071°-46'-25.69"W (Loran C rates X-25972.1, Y-43944.7, W-14598.0, Z-60134.1) in 128 ft. water depths with a least depth of 88 ft.. This wreck which was investigated by divers (See section E-2) is not considered a danger to surface navigation. However, because of it's proximity to submarine routes the wreck is considered a hazzard to subsurface navigation and warranted submission of a Notice To Mariners (See Appendix H). This command further recommends that the wreck be charted as dangerous. — *Concur*

#2918

The other contact was a wreck found during side scan sonar operations on this sheet and sheet R/H 20-18-84 (Target #15) at latitude 041°-16'-19.96"N, longitude 071°-42-12.32W (Loran-C position X-25935.2, Y-43940.7, W-14570.3). The least depth and position of this wreck was determined by conducting a reconissance survey using the DSF 6000N echo sounder (Pos. 565-569). The wreck protrudes approximately 5 feet off the bottom* in

#2924

L-1308
84

*From the DSF-6000N fathometer. However sonargram analysis indicates this wreckage may extend approximately 9½ feet above the bottom giving a "reported" least depth of 111½ feet.

depths of approximately ~~120~~ 121 feet. It is recommended that the wreck be charted as non-dangerous. - Concur - See the Evaluation Report, sections 6. & 7.

L. Comparison With the Chart

A comparison was made with NOS charts 13209, 16th Ed., June 19/82, 1:40,000 scale and 13205, 27th Ed., April 23/83, 1:80,000 scale. A more comprehensive comparison was made with chart 13209, which is the largest scale chart of the area. The soundings that appear on this chart within the survey area are from prior survey H-6443. A comparison was made with this prior survey in the previous section of this report. There was good agreement between the charted depths and depths observed during side scan sonar operations.

The two wrecks discussed in section K are the only charting changes recommended as a result of this survey.

All presently charted landmarks in the proximity of this survey were visually verified from offshore and are adequate for charting.

M. Adequacy of Survey

This survey is considered complete and adequate for charting.

N. Incomplete Items

This survey is considered complete with regard to the clearing of the tanker route for Northville Industries. - Concur

O. Currents and Winds

Tidal currents were closely monitored during the survey. Side scan sonar operations were conducted with the predominant current flow to maintain proper towfish depth and vessel speed. Comparisons were made with the Tidal Current Tables, 1984, Atlantic Coast of North America for station 2321 and the race. In general, the times and strengths of maximum flood and ebb and times of slack water at the surface agreed with the predicted times and strengths under normal conditions.

P. Personnel

The officers participating in this survey were LCDR Robert K. Norris, LT Neal G. Millett, LT Edward M. Clark, and ENS Thomas G. Callahan.

Q. General Notes

The format of this report is a composite of the Descriptive Report formats contained in the Wire Drag and Hydrographic Manuals. This format is the optimum composite of the pertinent sections of the two reports and is more applicable to the surveys currently being conducted by the Rude and Heck.

R. Approval Sheet

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report and field sheet has been closely reviewed and is considered complete and adequate for charting.

Respectfully submitted,

Robert K. Norris
LCDR, NOAA
Commanding Officer
NOAA Ships RUDE & HECK

C. HORIZONTAL CONTROL

No new stations were established for this survey. See Appendix D., Signal List for a complete listing of all stations used on this survey.

D. SIGNAL LIST

OPR-B660-RU/HE-94

VALS/STATIONS — See the Control Listing in the final digital files

Block Island North Lighthouse (1874)

ID NBR	1
LAT	411039.081
LON	713404.864
ELEV'N	17.68 M
FILE	1

Beacon Hill Tower (1928)

ID NBR	5
LAT	411031.400
LON	713530.895
FILE	5

Lone House (1939)

(Not used)

ID NBR	9
LAT	411249.560
LON	713035.700
FILE	9

Outer Red Light (1912)

(Not used)

ID NBR	2
LAT	411030.600
LON	713822.088
FILE	2

Gt. Salt Pond Brkwtr Outer End Lt. (1941)

ID NBR	6
LAT	411157.115
LON	713537.231
FILE	6

Spring house Cupola (1911)

(Not used)

ID NBR	10
LAT	411004.369
LON	713819.326
FILE	10

Block Is Life Saving Sta Chim (1911)

(Not used)

ID NBR	3
LAT	411048.840
LON	713638.270
FILE	3

Gt. Salt Pond Brkwtr Inner End Lt. (1941)

ID NBR	7
LAT	411144.874
LON	713525.578
FILE	7

Point Judith Lighthouse (1839)

ID NBR	11
LAT	412139.323
LON	712854.826
ELEV'N	19.81 M
FILE	11

Baptist Church Steeple (1911)

(Not used)

ID NBR	4
LAT	411004.806
LON	713506.389
FILE	4

Block Is. S.E. Lighthouse (1874)

ID NBR	8
LAT	410909.564
LON	713328.505
FILE	8

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BLOCK IS. CONT'D
WATCH HILL LIGHT HOUSE (1873)

ID NBR	12
LAT	411813.646
LON	715102.552
ELEV'N	18.68 M
FILE	12

GREEN HILL POINT COAST GUARD
FLAG TOWER (1939)

(Not used)

ID NBR	16
LAT	412155.268
LON	713544.210
FILE	16

WHITE CHURCH TOWER
(1939)

ID NBR	20
LAT	412402.228
LON	713420.238
FILE	20

CHARLESTOWN USN AIR STA
W TANK (1968)

(Destroyed)

ID NBR	13
LAT	412223.722
LON	713944.059
ELEV'N	30.10 M
FILE	13

MAIN BREAKWATER CENTER
LIGHT 2 (1948)

ID NBR	17
LAT	412114.988
LON	713827.964
FILE	17

CHARLESTOWN USN AIR STA
E. TANK (1968)

(Destroyed)

ID NBR	14
LAT	412224.531
LON	713943.685
FILE	14

POINT JUDITH HARBOR OF REFUGE
MAIN BREAKWATER WEST LIGHT
(1948)

ID NBR	18
LAT	412140.595
LON	713849.388
FILE	18

CHARLESTOWN, U.S. NAVY AUXILIARY
AIR FIELD, CONTROL TOWER
(1943)

(Destroyed)

ID NBR	15
LAT	412235.584
LON	713951.748
FILE	15

POINT JUDITH HARBOR OF REFUGE
WEST BREAKWATER LIGHT
(1948)

ID NBR	19
LAT	412155.710
LON	713854.886
FILE	19

E. PNEUMO DEPTH GAUGE REPORT

PNEUNOFATHOMETER CALIBRATION 30 AUG 1984, JD 243
S/N 784996

eumo: ENS Callahan
Recorder: JST Anoushian
Leadline: OS Lewis

Location: 2.5 NM north of Block Island, RI

Wx: Hazy, Winds: S 10 kts,
Seas: 1 ft, Swell: none
Vis: 4 NM

Lead-line	Pneumo. Down	Pneumo. Up	Corr. Down	Corr. Up
2ft	1.5	2.0	+0.5	0.0
4	3.5	4.4	+0.5	-0.4
6	6.0	6.5	0.0	-0.5
8	8.0	8.4	0.0	-0.4
10	9.5	10.0	+0.5	0.0
12	11.8	12.2	+0.2	-0.2
14	13.8	14.0	+0.2	0.0
16	16.0	16.2	0.0	-0.2
18	17.8	18.0	+0.2	0.0
2[illegible]	20.2	20.8	-0.2	-0.8
22	22.0	22.3	0.0	-0.3
24	24.0	24.0	0.0	0.0
26	25.9	26.2	+0.1	-0.2
28	27.9	28.0	+0.1	0.0
30	30.5	30.2	-0.5	-0.2
32	31.9	32.0	-0.1	0.0
34	33.8	34.2	+0.2	-0.2
36	36.0	36.4	0.0	-0.4
38	38.0	38.0	0.0	0.0
40	39.8	40.2	+0.2	-0.2
42	41.5	41.8	+0.5	+0.2
44	43.8	44.5	+0.2	-0.5
	45.9	45.9	+0.1	+0.1
48	47.8	48.4	+0.2	-0.4
50	50.0	50.5	0.0	-0.5
52ft	51.8	52.0	+0.2	0.0
54	53.5	54.0	+0.5	0.0
56	55.5	56.3	+0.5	-0.3
58	57.9	58.0	+0.1	0.0
60	59.2	59.8	+0.8	+0.2
62	61.5	61.8	+0.5	+0.2
64	63.8	64.4	+0.2	-0.4
66	65.8	65.5	+0.2	+0.5
68	67.7	68.0	+0.3	0.0
70	69.0	70.4	+1.0	-0.4
72	71.5	72.0	+0.5	0.0
74	74.0	73.8	0.0	+0.2
76	75.5	75.5	+0.5	+0.5
78	77.0	77.0	+1.0	+1.0
80	80.0	79.5	0.0	+0.5
82	81.6	82.0	+0.4	0.0
84	83.0	84.0	+1.0	0.0
86	85.6	85.8	+0.4	+0.2
88	87.9	88.0	+0.1	0.0
90	89.2	90.0	+0.8	0.0
92	91.5	92.0	+0.5	0.0
94	94.0	93.5	0.0	+0.5
96	95.5	96.0	+0.5	0.0
98	97.0	97.5	+1.0	+0.5
100	99.5	99.3	+0.5	+0.7
102ft	101.5	102.0	+0.5	0.0
104	103.5	102.8	+0.5	+1.2
106	105.0	105.0	+1.0	+1.0
108	106.9	107.5	+1.1	+0.5
110	108.5	109.2	+1.5	+0.8
112	110.9	111.5	+1.1	+0.5
114	113.5	113.5	+0.5	+0.5
116	115.5	115.6	+0.5	+0.4
118	117.6	117.5	+0.4	+0.5
120	119.5	118.8	+0.5	+1.2
122	121.3	121.3	+0.7	+0.7
124	123.0	123.0	+1.0	+1.0
126	125.0	124.9	+1.0	+1.1
128	126.7	127.3	+1.3	+0.7
130	128.8	128.8	+0.2	+0.2

F. DIVING REPORT

ITEM INVESTIGATION

DATE: 12 October 1984, JD 286

SHIP/LAUNCH: RUDE and Launch 25

LOCATION: 4.7 Nm south east of WATCH HILL PT. on the northern edge of the NORTHVILLE Tanker Corridor.

DIVE MASTER LT. Edward M. Clark Jr.

DIVERS: LT Clark

LTJG Callahan

TIMES (UTC)

IN WATER 1803

UNDER WATER 1805

ON SURFACE 1809

IN BOAT 1812

MAXIMUM DEPTH 120 feet

DIVE DURATION 15 mins.

PNEUMOFATHOMETER NO. 784996

ITEM Contact #1 R/H 20-17-84

POSITION Lat. 41°15'59.14 N.
LONG. 071°46'25.69" W.

LEAST DEPTH

TIME(UTC) DEPTH
1. 1807/ 89.0
2. 1807/ 89.5
3. 1807 89.0

Pneumo depth 89.0'

Pneumo corr. ~~+0.8'~~ +0.4'
~~89.8'~~ 89.4'

Tide corr. @
UTC 1802 ~~-1.0~~ -0.8'
Least Depth ~~88.8'~~ 88.6'

BOTTOM

TIME(UTC) DEPTH
1. N/A
2. N/A
3. N/A

ITEM _____

POSITION _____

LEAST DEPTH

TIME(UTC) DEPTH
1. _____
2. _____
3. _____

BOTTOM

TIME(UTC) DEPTH
1. _____
2. _____
3. _____

ITEM _____

POSITION _____

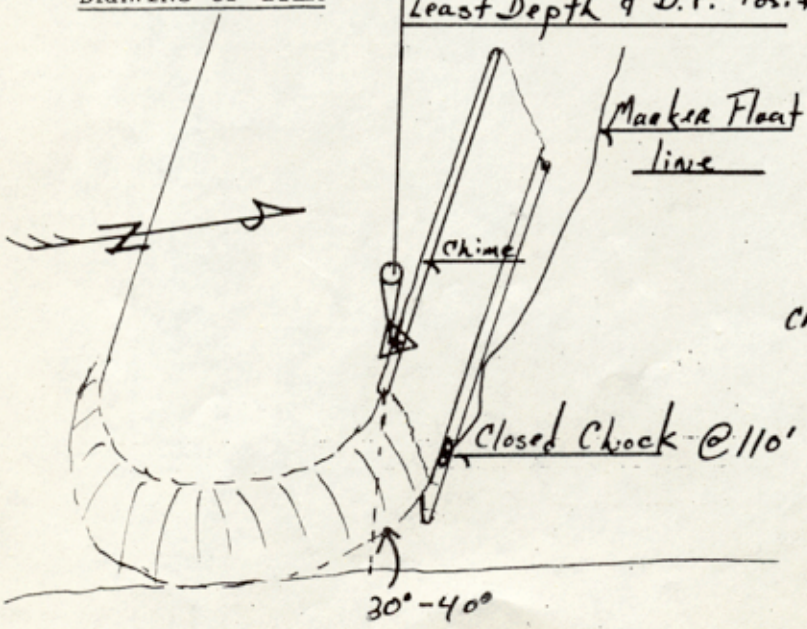
LEAST DEPTH

TIME(UTC) DEPTH
1. _____
2. _____
3. _____

BOTTOM

TIME(UTC) DEPTH
1. _____
2. _____
3. _____

DRAWING OF ITEM

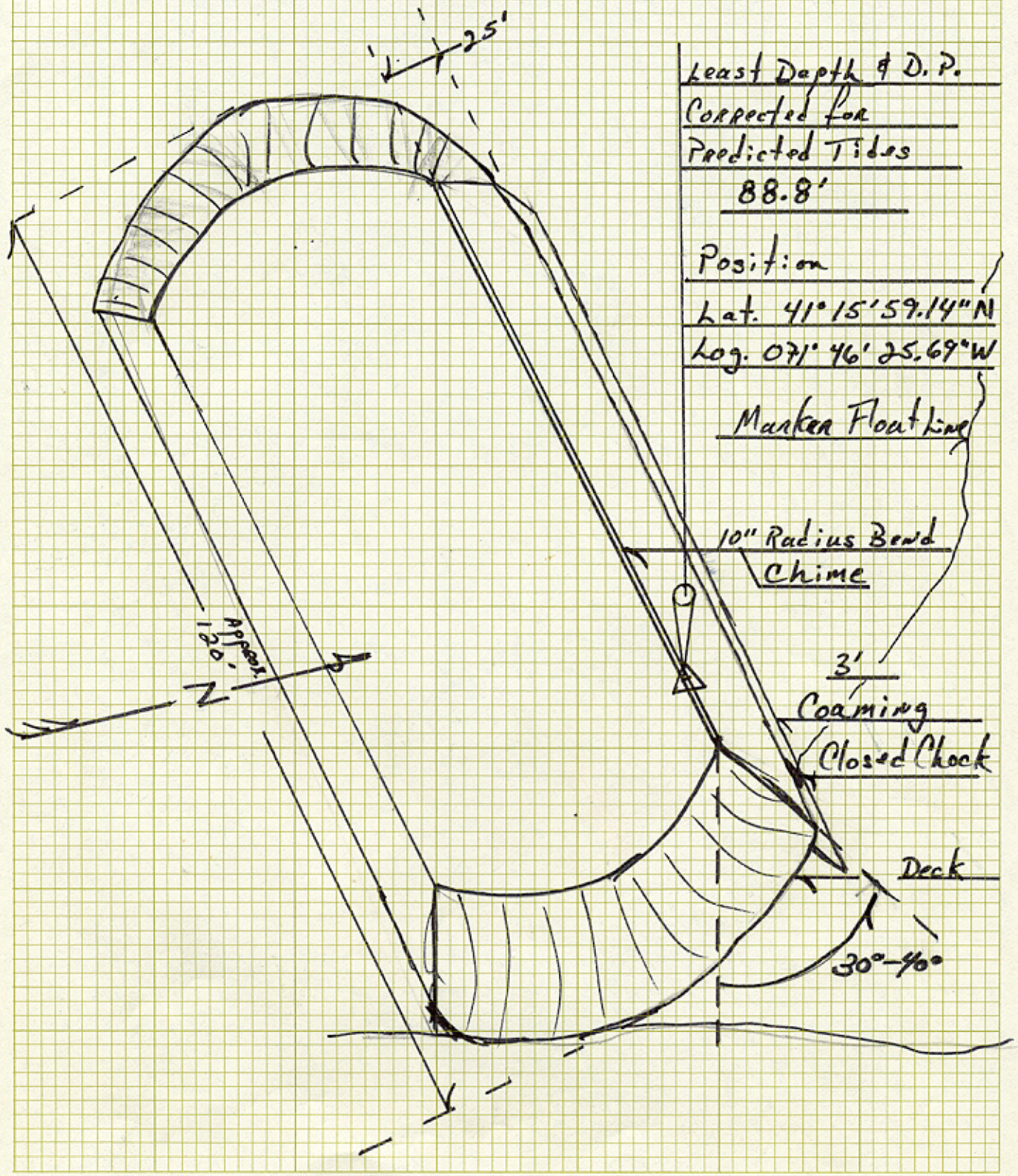


DESCRIPTION OF ITEM

The side scan sonar contact #1 for R/H 20-17-84 is a steel hull of a barge 100-120' LOA, with an undetermined beam. The barge is inverted with a 30°-40° list to stbd. and the shoalest point is a 10" radius bend of the port chime. The chime is very uniform in depth being 91-89'. The least depth readings were taken on the chime . The D.P. was taken when the DSF-6000 echo sounder showed the RUDE was positioned directly over the barge Chime.

AWOIS # 2918

Side Scan Sonar
Contact #1
R/H 20-17-84



FF-LOM-10 X 10 TO 1 INCH
10TH LINE HEAVY

DIVING OPERATIONS

Date: 25 September, 1984 JD 269 **Unit:** RUDE and Launch 25

Divemaster: LT Edward M. Clark Jr. **Lead diver:** LT Edward M. Clark Jr.

Purpose of Dive: The location and identification of a side scan sonar contact on field sheet R/H 20-17-84.

Equipment: Standard scuba with wet suits and accessory equipment as prescibed by NOAA Diving Regulations.

Planned Depth: Not to exceed 100' **Planned Duration:** Not to exceed 25 min.

Divers	IN Pressure	Out Pressure	Pressure	In Time (UTC)	Out Time	Time	Depth	Comments
Clark	3000	400	2600	1649	1708	19	95'	
Callahan	3000	400	2600	1649	1708	19	95'	

Post dive comments: The divers surveyed the area around the marker floats deployed by the RUDE and found a steel hull. The hull is in good condition but covered by sea anemone. A bottom current in excess of 1 knot was present on the hull,which is inverted, and did not afford the divers a position to secure a marker float or to gain a hand hold for approx. 100 to 125 feet. The dive had to be terminated due to low air supply.

/1/ Ed Clark
Divemaster Signature

LT Ed Clark
Lead Diver Signature

DIVING OPERATIONS

Date: 9 Octcber, 1984 JD 283 Unit: NOAA Ship RUDE, Launch 25

Divemaster: LT. Clark Lead diver: LT. Clark

Purpose of Dive: Continued investigation of Contact #1 R/H 20-17-84.

Equipment: Standard open circuit scuba with wet suit and accessory equipment as prescribed by NOAA Diving Regulations.

Planned Depth: 120 Planned Duration: 15 mins.

Divers	IN Pressure	Out Pressure	Pressure	In Time (UTC)	Out Time	Time	Depth	Comments
Clark	2950	350	2600	1629	1644	15	110'	
Callahan	3000	400	2600	1629	1644	15	110'	

Post dive comments: The diver did an increasing circle search at a depth of 105-90' in the mid-water column but were unable to locate the obstruction. The visibility was good but there were large amount of transparent gelatinous salps in the water column from 60' down to the working depth. These organisms reduced the ambient light and cause the hull of the barge to be obscured beyond 15' horizontal distance. However, once on the shoalest part of the wreck with a reference the diver's visibility was generally improved to 25-35 feet horizontally, when the divers were on the wreck on 25 Sept. JD 269.

LT Ed Clark
Divemaster Signature

LT Ed Clark
Lead Diver Signature

DIVING OPERATIONS

Date: 11 October, 1984 JD 285 Unit: NOAA Ship RUDE, Launch 25

Divemaster: LT. Clark Lead diver: LT. Clark

Purpose of Dive: Locate and investigate Side Scan Sonar contact #1 on R/H 20-17-84

Equipment: Standard scuba with wet suits and accessory equipment as prescribed by NOAA Diving Regulations.

Planned Depth: Not to exceed 110 feet Planned Duration: Not to exceed 20 min.

Divers	IN Pressure	Out Pressure	Pressure	In Time (UTC)	Out Time	Time	Depth	Comments
Clark	2900	2050	850	1708	1713	05	110	
Callahan	3100	2000	1100	1708	1713	05	110	
Clark	2050	1000	1050	1730	1736	06	110	
Callahan	2000	950	1050	1730	1736	06	110	
Clark	3000	1100	1900	1759	1808	09	110	
Callahan	2900	800	1900	1759	1808	09	110	

Post dive comments: Dive team located obstruction on 3rd. dive 4 mins. into the dive. The obstruction appears to be steel construction covered by sea anemone and seems to be an eight to ten inch radius bend that extends approx. 100-120 feet LOA at a depth of 90-88 feet. A position on the wreck was located to secure a marker float line. The visibility was excellent once the divers were on the wreck with a frame of reference extending 20-30 vertically looking up and 10-15 feet down the side of the hull. Horizontally the visibility was 15-25 feet.

LT Ed Clark Jr. LT Ed Clark Jr.

Divemaster Signature Lead Diver Signature

DIVING OPERATIONS

Date: 12 October, 1984 JD 286 Unit: NOAA Ship RUDE, Launch 25

Divemaster: LT. Clark Lead diver: LT. Clark

Purpose of Dive: Obtain a least depth reading on wreck, contact #1 R/H 20-17-84, and identify the vessel construction. The least depth to be using standard pneumo-fathometer operations, and line pull signals.

Equipment: Standard scuba open circuit with wet suits and accesory equipment as prescribed by NOAA Diving Regulations.

Planned Depth: Not to exceed 120 feet Planned Duration: Not to exceed 15 mins.

Divers	IN Pressure	Out Pressure	Pressure	In Time (UTC)	Out Time	Time	Depth	Comments
Clark	3150	1100	2050	1734	1743	09	120	
Callahan	3000	800	2200	1734	1743	09	110	
Clark	3100	2200	900	1805	1809	04	110	
Callahan	3200	2050	1150	1805	1809	04	110	

Post dive comments: The dives were planned for slack water and a polypro. line was secured to the position located on JD 285 and the launch was secured to this line. The diver were able to identify the hull as an overturned barge. The barge deck and a coaming were identified by the diver at a depth of 110-115 feet. On the second dive three least depth reading were obtained.

LT Ed Clark Jr.
Divemaster Signature

LT Ed Clark Jr.
Lead Diver Signature

H. LOCAL NOTICE TO MARINERS REPORT

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA SHIPS RUDE & HECK
439 West York St.
Norfolk, VA 23510

October 22, 1984

To: Commander, First Coast Guard District
150 Causeway Street
Boston, MA 02114

From: LCDR Robert K. Norris
Commanding Officer

Subj: Notice to Mariners

Survey operations by the NOAA Ships RUDE and HECK 4.45 NM southeast of Watch Hill Point has identified, using NOAA divers, a wreck of a steel-hulled barge at latitude 41°15'59.14"N, longitude 71°46'25.69"W. The least depth, determined by the NOAA divers, over this wreck was 88 feet at MLLW, reduced for predicted tides. This wreck is not presently charted.

Ref: Fix 317, JD269

J. DANGERS TO NAVIGATION REPORT

SEE APPENDIX H. NOTICE TO MARINERS

DATE: 12/19/84

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Atlantic

OPR: B660

Hydrographic Sheet: R/H 20-17-84

Locality: Block Island Sound

Time Period: September 19-October 12, 1984

Tide Station Used: 845-2660 Newport, RI

Plane of Reference (Mean ~~Lower~~ Low Water): 1.81 ft

Height of Mean High Water Above Plane of Reference: 3.5 ft

Remarks: Recommended Zoning:

1) For item located at latitude 41° 16.0' longitude 71° 46.3' apply +40 minute time correction and x 0.71 range ratio to all heights

2) For item located at latitude 41° 16.3' longitude 71° 42.2' apply +30 minute time correction and x 0.71 range ratio to all heights

James R. Hubbard
Chief, Tidal Datums Section

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

GEOGRAPHIC NAMES

SURVEY NUMBER

FE-266

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
BLOCK ISLAND SOUND (title)										1
RHODE ISLAND (title)										2
WEEKAPAUG POINT (title)										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved:					18
										19
					Charles E. Hopkinson					20
					Chief Geographer – NOS C&GS					21
					12 Feb. 1983					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: FE-266

Number of positions		570
Number of soundings		2
Number of control stations		10
	TIME-HOURS	DATE COMPLETED
Preprocessing Examination		
Verification of Field Data		
Quality Control Checks		
Evaluation and Analysis	67	2/26/85
Final Inspection	2	2/13/85
TOTAL TIME	69	
Marine Center Approval		2/26/85

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.

NOAA FORM 61-29
(12-71)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REFERENCE NO.

MOA23-24-85

LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU BY *(Check)*:

☐ ORDINARY MAIL ☐ AIR MAIL

☒ REGISTERED MAIL ☐ EXPRESS

☐ GBL *(Give number)* _____

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

DATE FORWARDED

2/27/85

NUMBER OF PACKAGES

One Tube; One Box

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

FE-266,OPR-B660-RU/HE-84,R/H-20-17-84
Rhode Island, Block Island Sound, Three Miles South of Weekapaug Point

Pkg 1 of 2 (Tube)

✓One Descriptive Report Orginial W/ 2 Smooth Sheets
✓One Final Field Sheet
✓Two Preliminary Field Sheets

Pkg 2 of 2 (Box)

✓One Accordian Folder W/ Echograms and Field Data Printouts
✓Two Sounding Volumes
✓One Envelope W/ Data Removed from Descriptive Report
✓One Envelope W/ Side Scan Somargrams
✓One Envelope W/ Smooth Tide Data
✓One Cahier W/ Final Control Printout; Final Position Printout; Final Sounding Printout
✓One Envelope W/ Miscellaneous Printouts

FROM: *(Signature)* for Maurice B. Hickson, III
D.A. MacFarland, Jr., LCDR, Chief, Hydro Surveys Branch

RECEIVED THE ABOVE
(Name, Division, Date)

Dwayne S. Clark
March 7 1985
N/CG243

Return receipted copy to:

HYDROGRAPHIC SURVEYS BRANCH, N/MOA232
ATLANTIC MARINE CENTER
NOAA—NATIONAL OCEAN SERVICE
439 WEST YORK STREET
NORFOLK, VA 23510

Att: Thersa High

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: FE-266 FIELD NO.: R/H-20-17-84

Rhode Island, Block Island Sound, Three Miles South of Weekapaug Point

SURVEYED: September 18 through October 12, 1984

SCALE: 1:20,000 PROJECT NO.: OPR-B660-RU/HE-84

SOUNDINGS: DSF-6000N Fathometer
Klein Side Scan Sonar
Pneumatic Depth Gage

CONTROL: Del Norte 520
(Range-Range)

Chief of Party.....R. K. Norris

Surveyed by.....N. G. Millett
.....E. M. Clark
.....T. G. Callahan

1. INTRODUCTION

a. This is entirely a side scan sonar survey. A Raytheon DSF-6000N fathometer was operated concurrently with the side scan sonar but the soundings are of reconnaissance value only as necessary sounding correctors were not determined. No hydrography beyond reconnaissance hydrography was required. No wire drag was accomplished during this survey.

b. Two smooth sheets were generated during processing which are attached to this report. The two smooth sheets only show the wreck and wreckage found by this survey. The final field sheet adequately displays the lines run and the area covered during this survey.

c. Corrections and notes made by the evaluator to the Descriptive Report are denoted in red ink.

2. CONTROL AND SHORELINE

a. The source of control is adequately discussed in section F. and appendix D. of the Descriptive Report.

b. There is no shoreline within the limits of this survey.

3. HYDROGRAPHY

a. The hydrography collected on this survey is of reconnaissance value only. Side scan sonar coverage is adequate and meets the requirements specified in the Project Instructions.

b. Least depth determination on the wreck (contact #1) was accomplished by diver investigation with a pneumatic depth gage which is

adequate. Contact #2 (contact #15 on R/H-20-18-84) was investigated by side scan sonar and fathometer search. The fathometer search yielded a least depth greater than what was computed by side scan sonar analysis. Therefore, the computed target height above prior survey depths was used for least depth computation. This is not considered adequate for least depth determination; however, since the most conservative least depth is 111 feet, it is considered non-dangerous and does not warrant further investigation by conventional methods.

4. CONDITION OF SURVEY

The final field sheet, survey records, and reports are adequate and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. In general the Descriptive Report is excellent in its entirety.

b. Prior surveys common to the survey area which were identified in the Project Instructions were used for comparisons by the hydrographer. The Project Instructions were deficient in that they did not list or require comparisons with prior survey H-4042WD (1918-1919).

c. No mention or reference was made by the hydrographer in the Descriptive Report pertaining to the recovery of geodetic control stations as required by section 3.2.1. of the Project Instructions.

d. A least depth by conventional methods was determined on the wreck in Latitude 41°15'59.14", Longitude 71°46'25.69". A least depth was not determined by conventional methods on the wreckage in Latitude 41°16'19.96", Longitude 71°42'12.32". In accordance with section 7.12.3.1. of the Project Instructions the hydrographer determined that this wreckage was non-dangerous. See section 3.b. of this report.

e. No Loran-C chart verification data was submitted with the survey records; however, Loran-C rates were recorded and are listed in section K. of the Descriptive Report for both wrecks located by this survey.

f. Although no aids to navigation exist within the survey area, it should have been so noted in section L. of the Descriptive Report.

g. No section "Reference to Reports" was included in the Descriptive Report; therefore, it cannot be determined if the hydrographer complied with the Coast Pilot section (8.5.) of the Project Instructions. Review of the 19th Edition (January 1984) of the Coast Pilot 2 during processing indicates there is nothing revealed by the present survey which would affect the Coast Pilot.

5. JUNCTIONS

An adequate junction exists with FE-264 (R/H-20-16-84) to the west. Survey R/H-20-18-84 has not been received for processing at this date; therefore, the determination of junctional adequacy with the present survey will be addressed in the Evaluation Report for that survey. Survey R/H-20-18-84 junctions with the present survey to the east. No

contemporary surveys exist or are planned to the north or south of the present survey.

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic Survey H-6443 (1939) 1:40,000

This prior survey is common to the entire present survey. Meaningful comparisons between prior hydrography and the present survey cannot be made since this is entirely a side-scan sonar survey. Adequate comparisons between the reconnaissance hydrography and prior soundings have been made by the hydrographer in section K. of the Descriptive Report.

b. Wire Drag Survey H-4042WD (1918-19) 1:50,000

This prior survey is common to the entire present survey. Effective depths within the common area range from 85 feet to 100 feet. The sunken wreck found by the present survey in Latitude 41°15'59.14", Longitude 71°46'25.69" with a least depth of 88 feet is in an area cleared by 95 feet on the prior survey. This is not considered a conflict since dive reports indicate that the wreck could not have been in existence in 1918-1919. The sunken wreckage found by the present survey in Latitude 41°16'19.96", Longitude 71°42'12.32" is in an area cleared by 95 feet on the prior survey. Sonargram and fathogram analysis of this wreckage indicate that it has an approximate least depth of 111 feet and therefore does not conflict with prior effective depths. The present survey contains no additional data which conflict with the prior survey effective depths.

2918

2924

7. COMPARISON WITH CHART 13215 (10th Edition, March 12, 1983)

a. Hydrography

The charted hydrography originates with the previously discussed prior survey. The previously discussed prior survey requires no further consideration. The hydrographer makes adequate chart comparisons in section L. of the Descriptive Report; however, the sunken wreckage found in Latitude 41°16'19.96", Longitude 71°42'12.32" appears to have a least depth (by sonargram analysis) of approximately 111 feet. It is recommended that this wreckage be charted as non-dangerous with a reported depth of 111 feet.

b. Aids to Navigation

No aids to navigation exist within the surveyed area.

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions except as noted in this report.

9. ADDITIONAL FIELD WORK

This is a very good side scan sonar survey which serves its intended purpose. No additional field work is recommended.

Maurice B. Hickson, III
Cartographer
Evaluation and Analysis

INSPECTION REPORT
FE-266

The data that make up this Side Scan Sonar survey have been inspected to gain insight into its overall completeness regarding survey coverage, presentation of survey results, and the verification or disproval of charted data. This survey, except as noted in the Evaluation Report, is considered complete and adequate to meet National Ocean Service standards. Processing is considered complete. The survey records comply with NOS requirements except as noted in the Evaluation Report.

Inspection

R. D. Sanocki
Chief, Hydrographic Surveys
Processing Section
Hydrographic Surveys Branch

David B. MacFarland, Jr., LCDR, NOAA
Chief, Hydrographic Surveys Branch

Approved February 26, 1985

Wesley V. Hull, RADM, NOAA
Director, Atlantic Marine Center

71° 48'
71° 47'
71° 46'
41° 17'
41° 17'
41° 16'
41° 16'
88 Wk
FE-266
SEPT-OCT, 1984
SCALE 1:20,000
NORTH AMERICAN DATUM OF 1927
POLYCONIC PROJECTION
41° 15'
41° 15'
SOUNDING IN FEET AT MEAN LOW WATER
CONTACT # 1 - *Sunken Barge*
71° 48'
71° 47'
71° 46'

71° 43'

71° 42'

71° 41'

41° 17'

41° 17'

111 Wk

41° 16'

41° 16'

FE-266
SEPT-OCT, 1984
SCALE 1:20,000
NORTH AMERICAN DATUM OF 1927
POLYCONIC PROJECTION
SOUNDING IN FEET AT MEAN LOW WATER

41° 15'

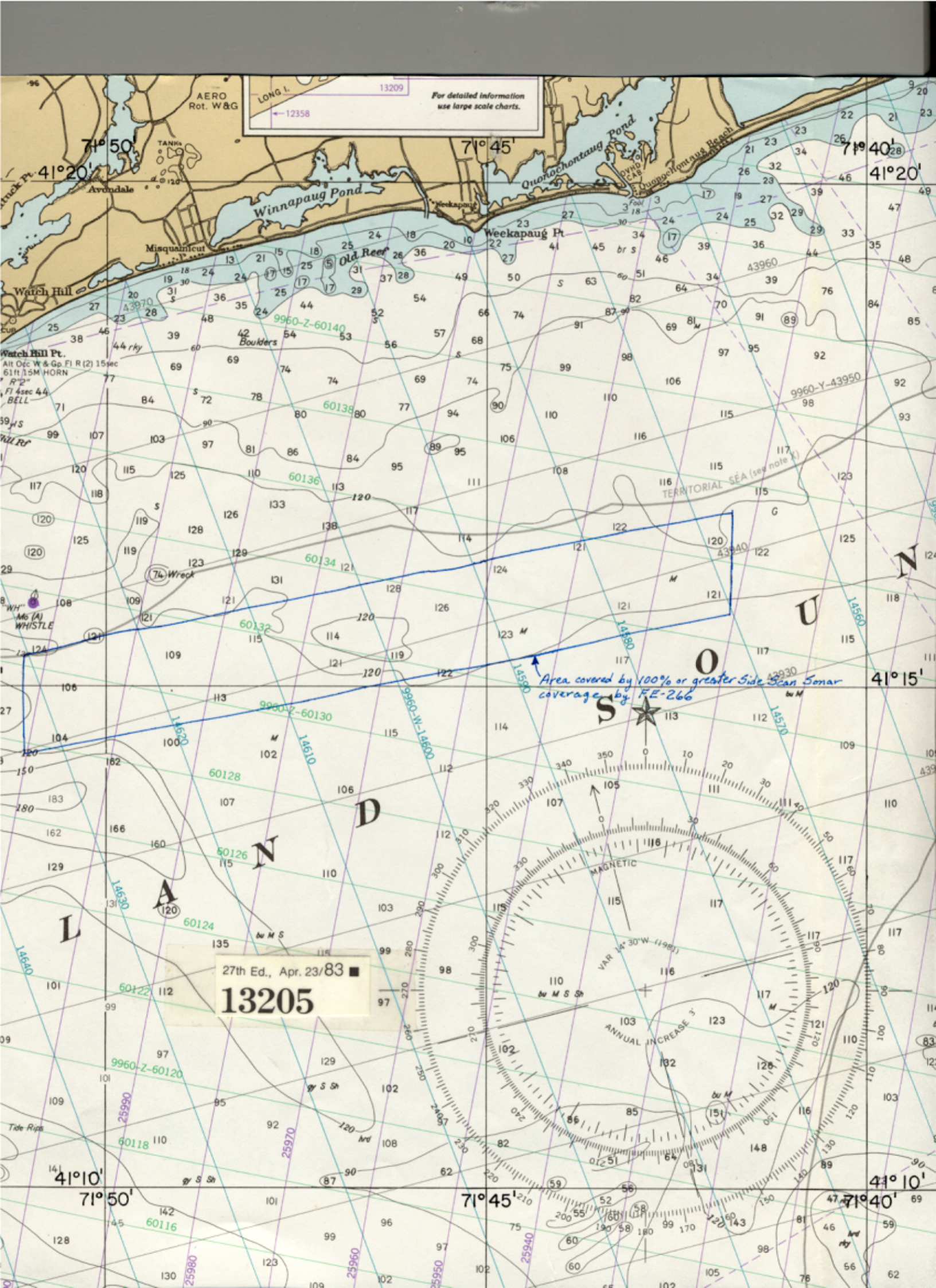
41° 15'

CONTACT # 2 - *Unidentified Submerged Wreckage*
(Also Contact # 15 on R/H-20-18-84)

71° 43'

71° 42'

71° 41'


71° 50'
71° 45'
71° 40'
41° 20'
41° 15'
41° 10'
AERO
Rot. W&G
LONG I.
13209
12358
For detailed information use large scale charts.
TANKS
Avondale
Winnapaug Pond
Misquamicut
Weekapaug
Weekapaug Pt
Quonochontaug Pond
Quonochontaug Beach
DYHD CAB
Foul
Old Reef
Watch Hill
Watch Hill Pt.
Alt Occ W & Gp Fl R (2) 15sec
61ft 15M HORN
Fl 4sec
BELL
Boulders
Wreck
MG (A)
WHISTLE
TERRITORIAL SEA (see note K)
Area covered by 100% or greater Side Scan Sonar coverage by FE-266
MAGNETIC
VAR 14° 30'W (1981)
ANNUAL INCREASE 3'
Tide Rips
43970
43960
43950
43940
43930
9960-Z-60140
9960-Y-43950
60138
60136
60134
60132
9960-Z-60130
9960-W-14600
60128
60126
60124
60122
9960-Z-60120
60118
60116
14560
14570
14580
14590
14610
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14630
14640
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25970
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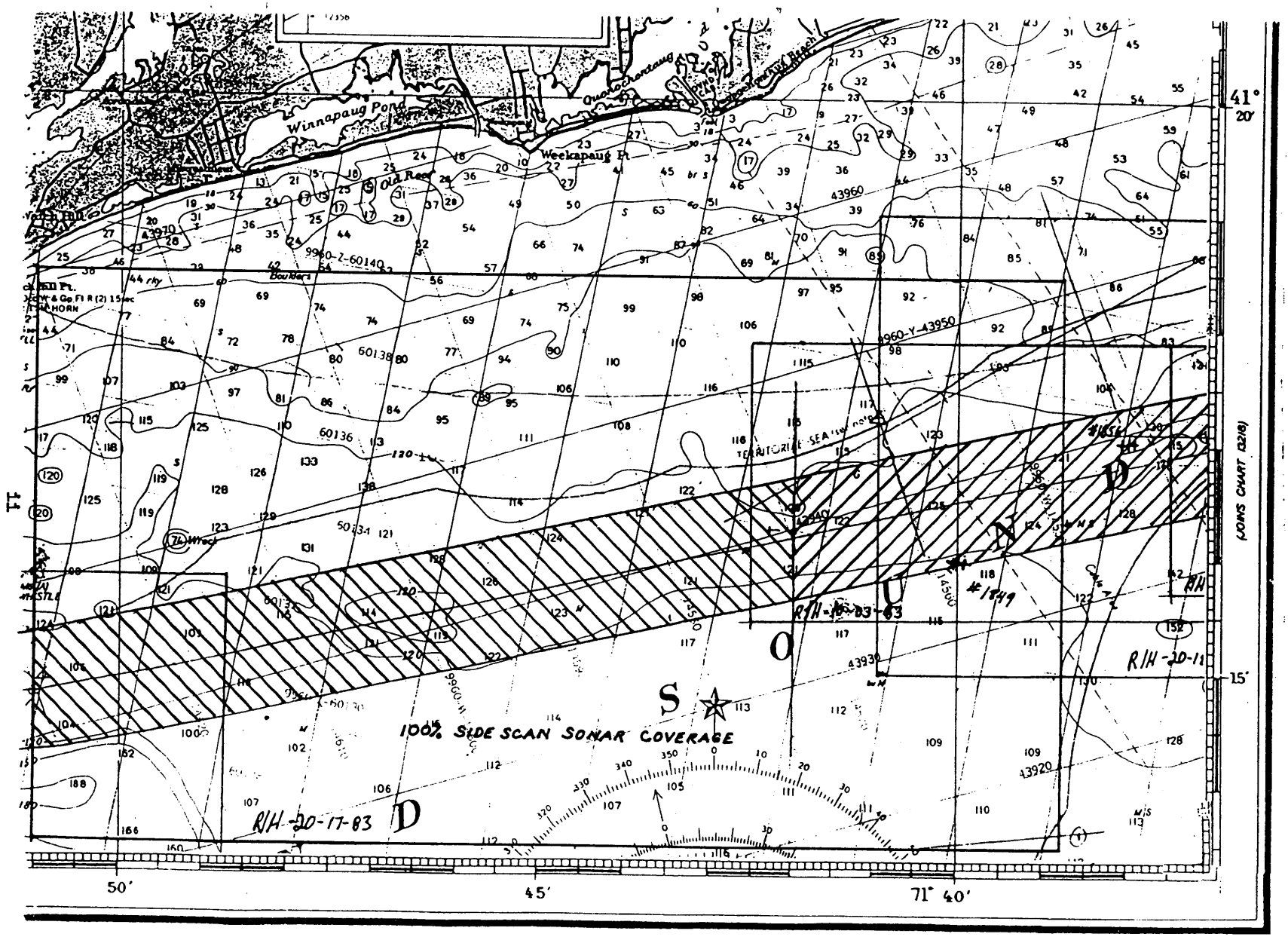
25980
25950
27th Ed., Apr. 23/83
13205



(Block Island Sound)

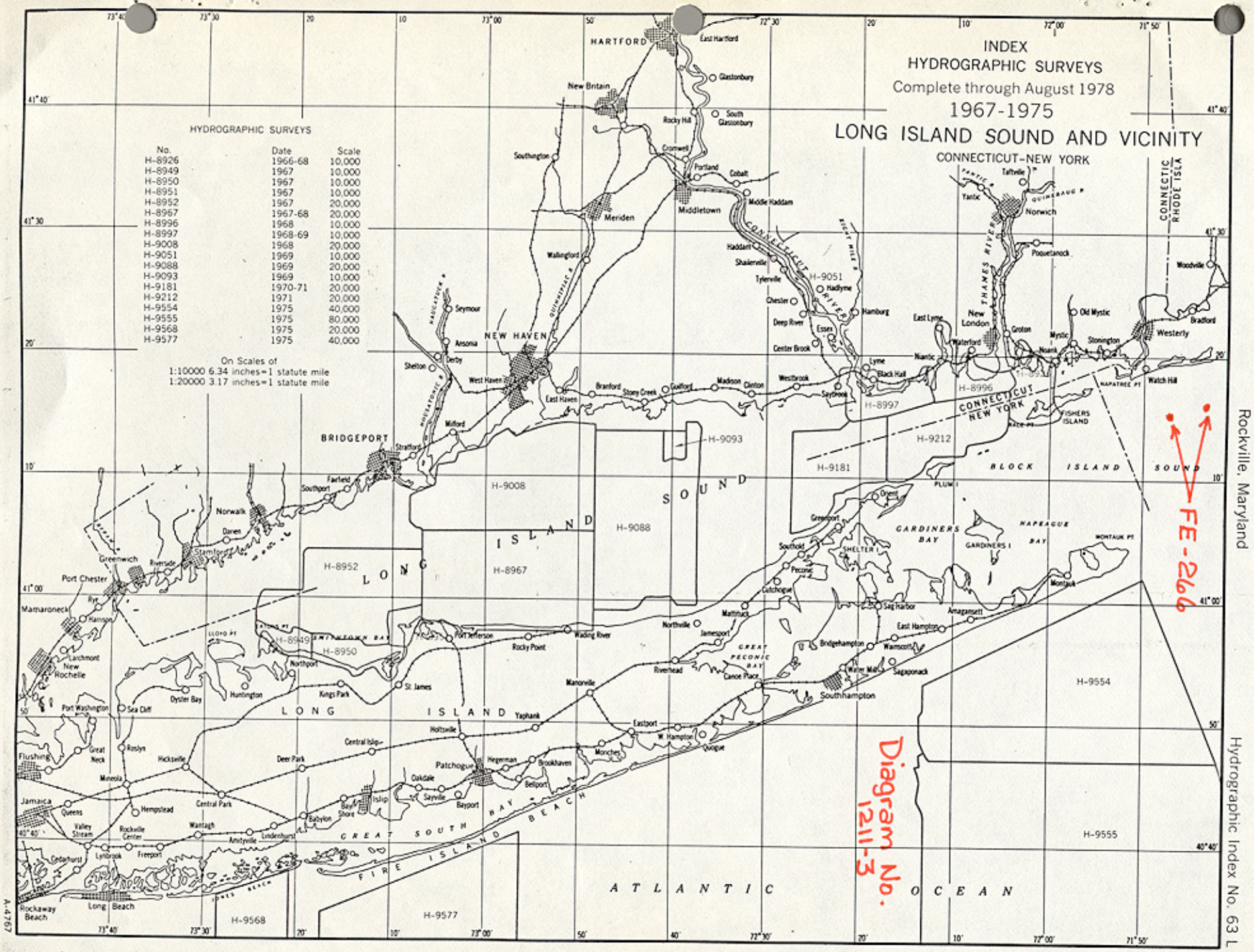
SOUNDINGS IN FEET - SCALE 1:80,000

13205

LORAN-C OVERPRINTED

SOUNDINGS IN FEET

PROGRESS SKETCH



DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 63 L

A-4767

NOAA FORM 75-96
(10-83)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-266

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
13215	3-12-83	H. Radden	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 11 prev. appl'd thru L-1308/84 & L-1494/84
13205	4-23-83	H. Radden	Full Part Before After Marine Center Approval Signed Via
			Drawing No. 51 prev. appl'd thru cht. 13215
12300	6-5-85	J. Baily	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 54 Applied
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.